

Claims

We claim:

Sub 227 1. A collapsible container comprises:

34, 36 44, 46
a) first and second sidewalls pivotally connected to a base, and first and second end walls pivotally connected to said base, said first sidewall includes at least one latching member that cooperates with a latching member of said first end wall to secure said first sidewall and said first end wall together when said first sidewall and said first end wall are in upright positions;

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b) a wall locking system that includes a plurality of first wall locking members on said first sidewall and at least one second wall locking member on said first end wall, said second wall locking member cooperates with said first wall locking members to prevent the first sidewall from moving relative to said first end wall in at least one direction when the first sidewall and first end wall are in upright positions; and

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c) a wall alignment system that includes a first member extending from one of said sidewalls and a second member that extends from one of said end walls, wherein said first and second members of said wall alignment system cooperate to align adjacent sidewalls and end walls before said sidewalls and end walls achieve a completely upright position.

2. The collapsible container according to claim 1 wherein said first member of said alignment system includes a spur that extends in a direction away from an outer side edge of said one of said sidewalls, and said second member of said alignment system includes a pair of receiving members that extend in a direction away from a face of said one of said end walls, said receiving members form an opening for slidably receiving said first member when said first sidewall and said first end wall are moved to the upright position.

3. The collapsible container according to claim 2 wherein said receiving members extend along a portion of said one of said end walls and form a spur receiving groove having a tapered receiving end.
4. The collapsible container according to claim 2 wherein said one of said sidewalls is said first sidewall, and wherein said spur is positioned along the height of the said first sidewall between adjacent first wall locking members.
5. The collapsible container according to claim 1 wherein said sidewalls and end walls each include a plurality of latching members.
6. The collapsible container according to claim 5 wherein said first sidewall latching member includes a plate extending along the length of said first sidewall in the direction of said first end wall.
7. The collapsible container according to claim 5 wherein said first end wall latching member includes a biased panel that deflects away from an interior of the container under pressure.
8. The collapsible container according to claim 7 wherein said biased panel is connected to said first end wall at a flexible hinge.
9. The collapsible container according to claim 7 wherein said inner surface of said panel is contoured so that it includes a first region and a second region that extend different depths into the interior of the container.
10. The collapsible container according to claim 7 further including a deformation prevention member that extends between an outer rear surface of said biased panel and an outer rear surface of said first end wall for limiting the distance that the biased panel can deflect.

11. The collapsible container according to claim 1 wherein the first end wall latching member includes a biased panel that deflects away from an interior of the container under pressure.
12. The collapsible container according to claim 11 further including a deformation prevention member that extends between a rear surface of said biased panel and a rear surface of said first end wall for limiting the distance that the biased panel can deflect.
13. The collapsible container according to claim 1 wherein said at least one second wall locking member is received between two of said first wall locking members.
14. The collapsible container according to claim 13 wherein said at least one second wall locking member includes a plurality of second wall locking members.
15. The collapsible container according to claim 1 wherein said wall locking system forms dovetail joints at corners of said container.
16. The collapsible container according to claim 1 wherein said container is stackable.
17. The collapsible container according to claim 16 wherein an upper surface of the sidewalls and end walls include stacking tabs for mating with a bottom surface of another container.
18. The collapsible container according to claim 17 wherein a lower surface of said base includes a plurality of receiving pockets positioned about its periphery for receiving stacking tabs from another container.
19. The collapsible container according to claim 1 further comprising:
- a) a hinging system for securing said first sidewall to said base, said hinging system including plural hinging members and a pivot axis about which said first sidewall pivots;
 - b) a plurality of support members extending away from a surface of said first sidewall or an upper surface of said base; and

c) a plurality of support receiving members positioned on the other of said surface of said first sidewall or said upper surface of said base for receiving said support members, each said support member and respective support receiving member being positioned between an outermost surface of an outermost hinging member and one of the ends of the first sidewall.

20. The collapsible container according to claim 19 wherein said support members each include a protrusion that extends away from a lower surface of said first sidewall, and said support receiving members each include an opening in said base.

21. The collapsible container according to claim 19 wherein said first sidewall is free of said support members and support receiving members in between the outermost hinge members.

22. The collapsible container according to claim 1 wherein said second sidewall includes a hinging system for securing said second sidewall to said base; and said second sidewall further includes a plurality of support members proximate its first and second ends.

23. A collapsible container comprising:

a) a base, a plurality of sidewalls and a plurality of end walls, said sidewalls and end walls being secured to said base so that said sidewalls and end walls can move relative to said base and each other, one of said sidewalls cooperating with one of said end walls to form a corner of said container when positioned upright;

b) a wall alignment system including a first member extending away from a face of said one sidewall or said one end wall, and a pair of receiving members extending away from a face of the other of said one sidewall and said one end wall, said receiving members forming an opening for slidably receiving said first member when said one sidewall and said one end wall are being moved to an upright position; and

c) a latching system having a first latching member on said one sidewall and a second latching member on said one end wall, wherein said latching members cooperate to secure the one sidewall and one end wall together as said corner is formed.

24. The collapsible container according to claim 23 further comprising a locking system for locking said sidewalls to the cooperating end walls, said locking system including a first set of locking members on said sidewalls that mate with a second set of locking members on said end walls for securely holding the walls in a fixed relationship.

25. The collapsible container according to claim 24 wherein the locking members on each of said sidewalls are received between a pair of the locking members on a respective cooperating end wall.

26. The collapsible container according to claim 23 wherein said first latching member includes a plate extending along the length of said one sidewall in the direction of said one end wall.

27. The collapsible container according to claim 26 wherein said second latching member includes a biased panel that deflects away from an interior of the container under pressure.

28. The collapsible container according to claim 27 wherein said biased panel is connected to said one end wall at a flexible hinge.

29. The collapsible container according to claim 27 further including a deformation prevention member that extends between a rear surface of said biased panel and a rear surface of said one end wall for limiting the distance that the biased panel can deflect.

30. The collapsible container according to claim 23 wherein the first latching member includes a biased panel that deflects under pressure away from an interior of the container, and a

deformation prevention member that extends between a rear surface of said biased panel and a rear surface of said one end wall.

31. The collapsible container according to claim 23 wherein said first member of said alignment system includes a spur; and said receiving members extend along a portion of said one of said end walls and form a spur receiving groove having a tapered receiving end.

32 33. The collapsible container according to claim 23 wherein said container is stackable.

33 34. The collapsible container according to claim 33 wherein an upper surface of the sidewalls and end walls include stacking tabs for mating with a bottom surface of another container.

34 35. The collapsible container according to claim 34 wherein a lower surface of said base includes a plurality of receiving pockets positioned about its periphery for receiving stacking tabs from another container.

35 36. The collapsible container according to claim 23 further comprising:

a) a hinging system for securing said one sidewall to said base, said hinging system including plural hinging members and a pivot axis about which said one sidewall pivots;

b) a plurality of support members extending away from a surface of said one sidewall or an upper surface of said base; and

c) a plurality of support receiving members positioned on the other of said surface of said one sidewall or said upper surface of said base for receiving said support members, each said support member and respective support receiving member being positioned between an outermost surface of an outermost hinging member and one of the ends of the one sidewall.

36 37. The collapsible container according to claim 36 wherein said one sidewall is free of said support members and support receiving members in between the outermost hinge members.

Sub 947 37 38 A collapsible container comprises:

- a) a base;
- b) a plurality of walls, at least one of said walls including first and second ends having first and second end surfaces, respectively, that extend perpendicular to the length of said at least one wall;
- c) a hinging system for securing the at least one wall to said base, said hinging system including plural hinging members and a pivot axis about which the at least one wall pivots;
- d) a plurality of support members extending away from a surface of said at least one wall or an upper surface of said base; and
- e) a plurality of support receiving members positioned on the other of said surface of said at least one wall or said upper surface of said base for receiving said support members, each said support member and respective support receiving member being positioned between an outermost surface of an outermost hinging member and one of the ends of the at least one wall.

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39: The collapsible container according to claim 38^{37R} wherein said plurality of walls includes first and second sidewalls and first and second end walls.

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40: The collapsible container according to claim 38^{37R} further including an alignment system for properly positioning said walls relative to each other while said container is being unfolded.

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41: The collapsible container according to claim 38^{37R} wherein said container is stackable.

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42: The collapsible container according to claim 41^{40R} wherein an upper surface of the sidewalls and end walls include stacking tabs for mating with a bottom surface of another container.

⁴²~~43.~~ The collapsible container according to claim ^{41R}~~42~~ wherein a lower surface of said base includes a plurality of receiving pockets positioned about its periphery for receiving stacking tabs from another container.

⁴³~~44.~~ The collapsible container according to claim ^{37R}~~38~~ wherein said support members each include a protrusion, and said support receiving members each include an opening in said base.

⁴⁴~~45.~~ The collapsible container according to claim ^{38R}~~39~~ wherein said first sidewall is free of said support members and support receiving members in between the outermost hinging members.

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